

## E WASTE COLLECTION AND MANAGEMENT (IDT - B2)

### Problem Statement

With electronic device use rising rapidly, e-waste has become a major environmental and health concern. Improper disposal, unsafe burning, and poorly managed dumps expose communities to toxic substances like lead, mercury, cadmium, and flame retardants. Manual segregation is slow and risky, while unorganised collection systems limit recovery of valuable materials and hinder responsible processing. As discarded electronics grow each year, the gap between waste generated and waste safely recycled widens. A smart, automated solution is urgently needed to manage e-waste effectively.

### Team Members

Mandeep Singh  
Vinit Kumar Bharti  
Antra Agarwal

Shreya Jaiswal  
Avyay Pandey  
Amod Pratap Singh

### Solution

We propose developing a smart e-waste management system, which involves a mobile application and an automated e-waste segregator to improve the collection, tracking, and recycling process. The E-waste collection App will allow users to easily schedule pickups, locate nearby collection centres, and track their waste contribution, promoting awareness and responsible disposal. On the other hand, the Automated E-waste Segregation will use sensors and basic electronics to detect and separate materials such as metal, plastic, and circuit boards efficiently. This integrated approach will make e-waste handling safer, faster, and more reliable while reducing human effort and promoting environmental sustainability. By encouraging responsible recycling habits and using automation, our project aims to create a cleaner and more sustainable future.

### Project Team



TECH BUSTERS

